

U.S. Patent Application Serial No. **10/015,564**  
Response filed February 28, 2006  
Reply to OA dated December 7, 2005

### **REMARKS**

Claims 24-26 and 28-58 are pending in this application. No amendment is made in this Response. It is believed that this Amendment is fully responsive to the Office Action dated **December 7, 2005**.

**Claims 24, 25 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over Huang et al. (U.S. Patent No. 3,683,044) in view of JP 08-104738 (see English translation obtained from JPO website). (Office action paragraph no. 5)**

1. With respect to English translation of JP 08-104738 A

The Examiner has referred to an English translation of JP 08-104738 obtained from the JPO website. In this document, it is stated on page 1, lines 4 to 5, of the translation: "This document has been translated by computer. So the translation may not reflect the original precisely".

Applicant has therefore obtained and here attached an English translation of JP08-104738A, which Applicant believes to be a better translation than the computer-generated translation. Applicant will refer here to the newly provided translation.

2. With respect to Claim Rejection under 35 U.S.C. §103

The Examiner alleges that Huang et al. '044 discloses a composition for coating comprising an epoxy resin and an amine curing agent, wherein the epoxy resin is an epoxy with a glycidylamine moiety derived from metaxylylenediamine, and that the epoxy resin can be cured by curing agents

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customarily used for curing glycidyl compounds. However, the Examiner states that Huang et al. does not appear to specifically disclose an amine curing agent that is a reaction product of metaxylylenediamine and a polyfunctional compound having at least one acyl group.

The Examiner also states that JP08-104738A teaches adducts of metaxylylene and acrylonitrile or methylmethacrylate with are derivatives of acrylic and methacrylic acid, and therefore, it would have been obvious to have substituted the amine curing agent of JP08-104738A in Huang et al. because "the JP '738 [reference] teaches that using an amine curing agent as claimed results in coatings with the additional benefit of corrosion prevention."

Applicant notes that JP08-104738A discloses a curing agent for epoxy resin comprising a polyamine compound (A) containing at least one compound selected from xylylenediamine, a modified product obtained by Mannich reaction of xylylenediamine and a phenolic compound or an aldehyde compound, a modified product obtained by the reaction of xylylenediamine and an epoxy compound, a modified product obtained by the reaction of xylylenediamine and a compound having a carboxyl group(s) and a modified product obtained by Michael reaction of xylylenediamine and an acrylic compound and a fatty amine compound (A) (claim 1, paragraphs [0007]-[0008]).

Further, JP08-104738A discloses an epoxy resin composition consisting essentially of the above-mentioned curing agent for epoxy resin and an epoxy resin (claim 4; paragraph [0007]).

JP08-104738A describes in paragraph [0017], lines 1 to 2, that: **"The invention has a feature that the fatty amine compound is contained in the curing agent for epoxy resin.** The fatty amine compound (B) to be used is primary amine, secondary amine and tertiary amine

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compounds having preferably at least 8 carbon atoms which are produced using mainly fatty acid or higher alcohol as a raw material, among which a compound with primary amine is more preferable.” (Emphasis added).

Thus, the curing agent for epoxy resin in JP08-104738A contains **both** polyamine compound (A) and fatty amine compound (B) as indispensable components.

The curing agent for epoxy resin in JP08-104738A is a mixture of 2 to 8 parts by weight of fatty amine compound (B) with 100 parts by weight of polyamine (A) (claim 2; paragraph [0020]).

As the Examiner pointed out, amine E of a reaction product of xylylenediamine and acrylonitrile and amine F of a reaction product of xylylenediamine and methylmethacrylate are disclosed in Reference Examples 5 and 6, respectively (paragraphs [0029], [0030]). Each of the polyamines is mixed with a fatty amine compound and a diluent in the proportion shown in Table 2, whereby each curing agent for epoxy resin is prepared (paragraph [0031], Table 2).

The curing agent for epoxy resin shown in Example 12 in JP08-104738A is a mixture of 95 parts by weight of amine E, 5 parts by weight of hexadecylamine and 25 parts by weight of benzyl alcohol (Table 2). The curing agent for epoxy resin shown in Example 13 is a mixture of 98 parts by weight of amine F, 2 parts by weight of hexadecylamine and 25 parts by weight of benzyl alcohol (Table 2).

Thus, each of amine E and amine F corresponds to polyamine compound (A) described in the claims and paragraphs [0007]-[0016] of JP08-104738A. Hexadecylamine correspond to fatty amine compound (B) in the claims and paragraphs [0007], [0008], and [0017] - [0019] of JP08-

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104738A.

In contrast, the amine curing agent of claim 24 of the present invention is “a reaction product obtained from reactants **consisting essentially of** (A) metaxylylenediamine or paraxylylenediamine; and (B) polyfunctional compound of acrylic acid, ... which is capable of forming amide group moiety by reaction with a polyamine to form an oligomer”. Thus, under the “consisting essentially of” transitional phrase, the amine curing agent of the present invention contains **no fatty amine compound corresponding to compound (B) of JP08-104738A**.

Even if the epoxy with a glycidylamine moiety derived from metaxylylendiamine disclosed in Huang et al. and the curing agent for epoxy resin disclosed in JP08-104738A were combined, the composition for coating thus obtained would be **different** from the curing agent of the present invention. That is, the proposed combination of the prior art references does not produce the present invention. No *prima facie* case of obviousness can be made using these references.

Further, the curing agent for epoxy resin and the epoxy resin composition disclosed in JP08-104738A are useful for corrosion prevention of a coating, a flooring, a metal and a concrete ([0001]). However, JP08-104738A does not teach that the curing agent for epoxy resin and the epoxy resin composition disclosed in JP08-104738A are useful for a gas barrier property in a coating film to be as packaging materials for food and medicine.

Applicant therefore submits that claims 24, 25 and 29 are not obvious over JP08-104738A and Huang et al., taken separately or in combination.

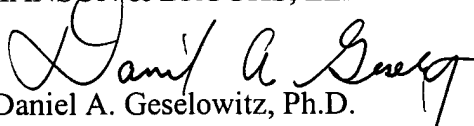
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If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the Applicant's undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Enclosures: English translation of JP 8-104738A